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# PL 84-99 Rehabilitation Program

CORPS/RECLAMATION BOARD/DWR  
MEETING WITH LOCAL MAINTAINING  
AGENCIES



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# Ground Rules



- Please mute your phones while others are speaking (\*6)
- There will be designated times for questions, please hold your questions until that time
- Roll Call/Sign In



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# Agenda



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2. Requests for Assistance Corps
3. Field Surveys Corps
4. Criteria
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6. Cost Estimates Corps
7. Additional Sites
  - April Flood Event DWR
  - Field Review Corps/DWR
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9. Next Steps
  - Request for Federal Funding Corps
  - Work Flow Corps/DWR
  - Regulatory Process
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  - Alternative Measures - Funding
    - Emergency Response DWR



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# Background



- A series of storms struck Northern California and Nevada in late December and early January.
- A Federal Disaster Declaration was issued for 31 California and 6 Nevada counties for the severe storms, flooding, mudslides and landslides.
- A Notice to Public Sponsors dated February 2nd 2006 was distributed seeking requests for rehabilitation assistance on eligible flood control projects damaged during the period of December 28th 2005 through January 9th 2006.
- Water levels remained high during the application period which was extended until April 3rd to allow sponsors additional time to identify damages.
- Water levels rose for a second time in April extending through June in some parts of the system further stressing the already damaged levees. A new public noticed was issued on June 16<sup>th</sup>.



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# Requests for Assistance



- The Sacramento District received 45 requests for assistance for the New Year's Flood event. An initial evaluation of the requests indicated that 43 are eligible for assistance under the PL 84-99 Program.
- These 43 requests encompass more than 300 sites distributed throughout 31 Reclamation Districts (RD) and Maintenance Areas (MA) in northern California and the State of Nevada.
- Another 9 requests have been received for the Spring flooding.



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# Field Survey



- During the first two weeks of June, two teams comprised of representatives from the Corps and DWR inspected all 300+ sites.
- These teams coordinated with each of the individual Reclamation Districts to ensure attendance and active participation by the local proponent.
- All sites were categorized into five orders of damage severity.
- Initial inspections will be held mid- to late August for the Spring flood event.





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# Criteria – Order 1 & 2



**Order 1:** The damages are severe enough that they may lead to loss of the levee before the next flood season. These levees are protecting urban areas where lives are at risk or where there may be a large economic impact.

**Order 2:** The damages are severe enough that they may lead to loss of the levee before the next flood season. These levees are protecting undeveloped areas.

## *Technical Criteria for both Order 1 and 2 Sites:*

- Vertical cut in the levee slopes higher than 10 feet,
- Vertical cut close to the levee crown with high traffic on the paved road on the levee crown (i.e. Hwy 160)
- Slides in the waterside or landside levee slope close to the levee crown that may lead to progressive failure of the levee,
- Sand boils removing material from the levee foundation that may lead to collapse of the levee due to piping.



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# Criteria - Order 3



**Order 3:** Severe damages that may extend into the next flood season but are less likely to lead to levee breaches.

## *Technical Criteria for Order 3 Sites:*

- Vertical cut of the levee toe at least 5 feet but less than 10 feet
- Loss of riprap and erosion 4 to 8 feet into the levee slope
- Small slides of the levee toe
- Wave wash 3-5 feet and erosion of the levee toe.







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# Criteria - Order 4



**Order 4:** Minor damage that may be exacerbated during the next flood but will not lead to the loss of the levee embankment:



## *Technical Criteria for Order 4 Sites:*

- Wave wash less than 3 feet into the levee slope
- Erosion less than 3 feet of the levee toe
- Seepage with clear water not carrying material from the levee foundation or levee embankment
- Damages to the crushed rock of the levee patrol road



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# Criteria - Order 5



**Order 5:** All other minor damages that will not affect the functionality of the levee and are not critical for the levee embankment.





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# Site Maps



- To be added by USACE...



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# Cost Estimates



PL84-99 Cost Estimate for Order 1 and 2 Sites				
Area	Length (LF)	# of Sites	Cost 1/	
Order 1 Sites				
RD 3	1,196	8	\$4,784,000	
RD 999	651	3	\$2,595,000	2/
RD 1500	400	1	\$1,600,000	
RD 10	150	1	\$692,000	2/
RD 70	150	1	\$600,000	
RD 784	800	4	\$1,544,000	2/
Maint. Area 5	290	2	\$1,160,000	
RD 2103	650	2	\$4,178,000	2/
BALMD	5,000	13	\$34,941,000	2/
Total Order 1 Sites	9,287	35	\$52,094,000	

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# Cost Estimates



Area	Length (LF)	# of Sites	Cost <u>1/</u>	
<b>Order 2 Sites</b>				
RD 501	672	2	\$2,688,000	
RD 150	3,563	8	\$13,051,000	<u>2/</u>
RD 827	60	1	\$240,000	
RD 2060	1,889	6	\$7,556,000	
RD 2068	10,187	3	\$40,748,000	
RD 2098	6,430	22	\$25,720,000	
Maint. Area 3	4,850	3	\$19,400,000	
Sac. Maint. Yard	170	1	\$680,000	
<b>Total Order 2 Sites</b>	<b>27,821</b>	<b>46</b>	<b>\$110,083,000</b>	
<b>Total</b>	<b>37,108</b>	<b>81</b>	<b>\$162,177,000</b>	
<u>1/</u> Costs are based on \$4,000 per linear foot				
<u>2/</u> These costs are from MCACES estimate				

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# Additional Sites



- April Flood Event
- Sacramento River Bank Protection Project
  - Comprehensive reconnaissance (including upper tributaries and bypasses)
  - Updated atlas new aerals.
- Preliminary results on the main stem Sacramento River
  - 17 new sites on Sacramento main stem
  - 3 new sites on Steamboat slough
  - 20 existing sites (already in inventory) have switched to critical
  - 6 out of the 17 new sites are critical
  - In total: 26 new critical sites on the Sacramento main stem
- The reach between Clarksburg and Walnut Grove seem to have suffered the most.
- The team is expected to complete field surveys by August 10<sup>th</sup> excluding the upper tributaries and bypasses.



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# Project Information Report Status



- 3 Order 1 sites completed (RD 10, 999, BALMD)
- 1 nearing completion (RD 784)
- 5 remaining Order 1 sites – 4 August completion date



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# Next Steps



- Request for Federal Funding
- Work Flow
- Regulatory Process (<http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/index.html>)
- Responsibilities of RDs
  - Monitoring
  - Borrow Areas
  - Maintenance Agreements
  - Real Estate
- Alternative Measures
  - Emergency Response
  - State Funding



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# Questions



RD 3	RD 544	RD 2031
RD 10	RD 784	RD 2035
RD 17	RD 785	RD 2063
RD 70	RD 900	RD 2103
RD 150	RD 999	Sutter Main. Yard
RD 307	RD 1001	Sacramento Main. Yard
RD 341	RD 1500	Tehama County
RD 501	RD 1602	Lower San Joaquin LD
RD 524	RD 1660	Brannan-Andrus LM Dist
		Yolo County Service Area 6